REMARKS

The present application contains claims 1, 6 and 8-10. Claims 1, 6 and 8 have been amended. Claims 9 and 10 have been added. Claims 2-5 and 7 have been cancelled without prejudice to Applicant to expedite the prosecution of the present application. Applicant reserves the right to file a continuing application directed to the subject matter of claims 2-5 and 7.

The specification has been amended and a proposed change to Figure 4 is requested to cure certain informalities.

Making reference to the detailed action, the specification and Figures have been reviewed and the changes have been set forth above. No new matter has been added.

Regarding the claim objections, claims 3 and 4 have been cancelled and this rejection is now moot.

The rejection of claim 8 under 35 U.S.C. § 112, second paragraph is duly noted and is hereby respectfully traversed. The language "sufficiently high" has been deleted from claim 8 and it is submitted that claim 8 now meets the requirements of § 112.

Claims 1 and 2 have been rejected under 35 U.S.C. § 102(b) as anticipated by Ichihara (Patent '064). This rejection is respectfully traversed as regards claim 1.

The Examiner states that Ichihara discloses an automatic gain controller operated on a quadrature modulated communication signal having amplitude modulated and phase modulated components comprising a limiting amplifier, i.e. elements 20 and 40 in Figure 2 receiving the quadrature modulated communication signal for producing phase information corresponding real and imaginary signal components of the quadrature modulated communication signal, a logarithmic detector, i.e. the logarithmic detector 30, 32 (Figure 1) for receiving a quadrature modulated communication signal for producing an analog representation of the power of the received signal, output to limiting amplifier and logarithmic detector being utilized to reliably obtain amplitude modulated information from the quadrature modulated communication signal. The Examiner making reference to lines 22-29, 44-47 and 59-62 of column 1 and line 35-38 and 53-56 of column 2 of patent '064.

Please note that an insert into the background of the application has been included together with the amended claims.

The amplitude limiter of patent '064 produces a reduced amplitude signal of the input signal. This is clearly shown in Figure 2 of patent '064 by the limiting amplifier train 40 within amplitude limiter 20. The present invention uses a totally different approach in that the limiting amplifier of the present invention turns the receive signal into a digital signal. As a result, the low pass filter 21 employed in

patent '064 is totally eliminated and any error inherent with the use of an analog output of the amplitude limiter of patent '064 in further processes (such as resistive losses, etc.) is eliminated. Accordingly, a higher precision gain control results. In addition, the configuration of the present invention provides a much more simplified gain controller.

Claims 6 and 8 and new claims 9 and 10 depend from claim 1. Claim 8 recites that the phase information is taken directly from the output of the limiting amplifier, which can be used for phase tracking as well as the output being used to produce I and Q information.

New claim 9 recites that need for the delay 31 of patent '064 is avoided.

New claim 10 recites the multiplying of the I and Q digital values with the digital value of the log. These features are not found in patent '064.

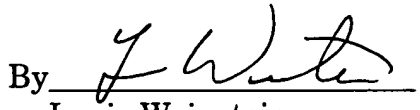
It should be noted that the features lacking in patent '064 are also lacking in the Suzuki et al. '875 and the Dent et al. '399 patents and it is submitted that claims 1, 6, 8, 9 and 10 patentably distinguish over the art relied upon by the Examiner.

Claims 6 and 8 depend from amended claim 1 and are patentable over the cited prior art for the reasons set forth regarding amended claim 1.

For the above reasons, Applicant respectfully submits that the presently claimed invention is patentable over the prior art. Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

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FIG. 3

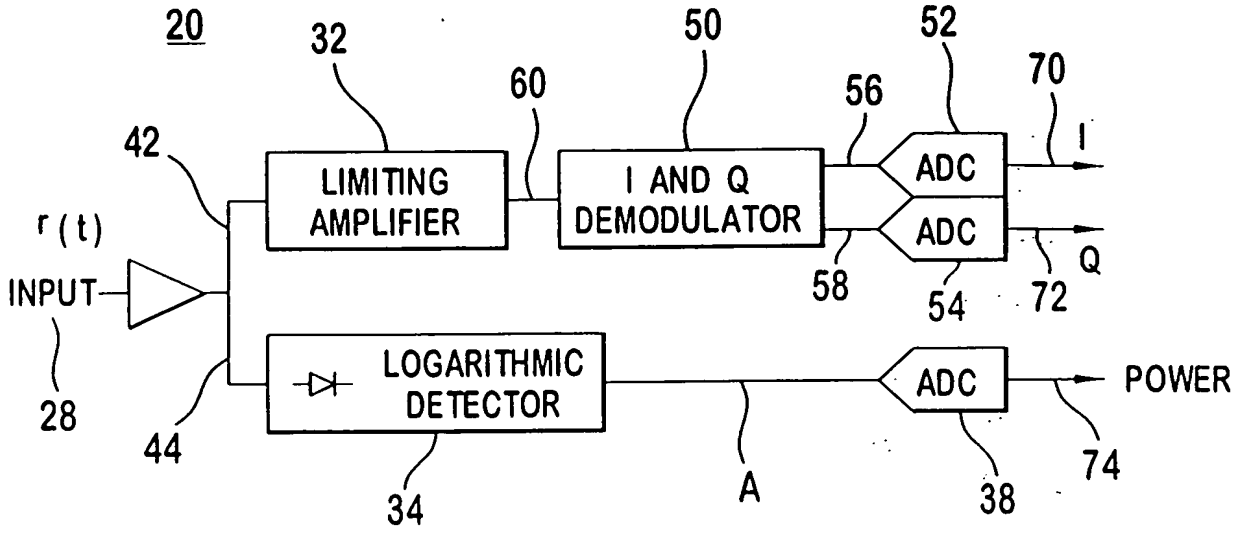
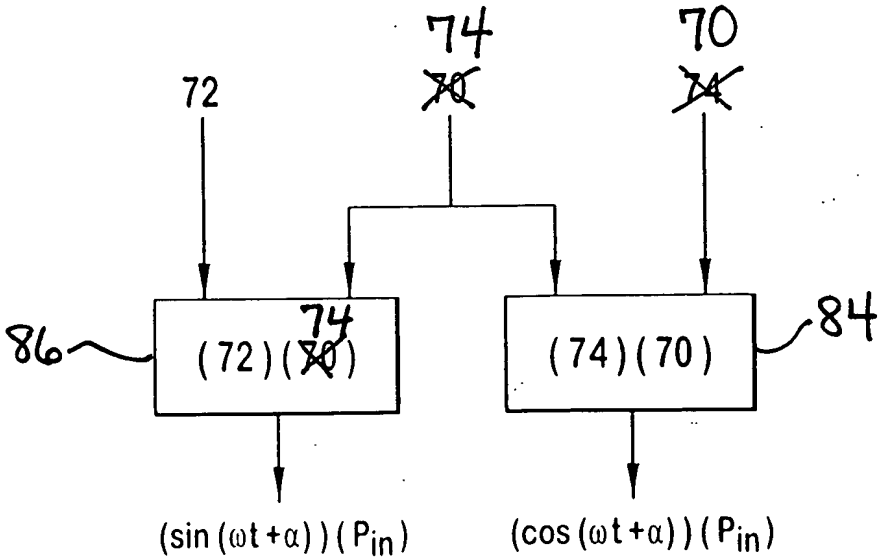


FIG. 4



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